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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,225	10/22/2001	Yao-Hao Chang		1124

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WEI TE CHUNG
FOXCONN INTERNATIONAL, INC.
1650 MEMOREX DRIVE
SANTA CLARA, CA 95050

EXAMINER	
KIANNI, KAVEH C	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,225	CHANG, YAO-HAO	
	Examiner	Art Unit	
	Kevin C Kianni	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 6-15* is/are rejected.

7)☒ Claim(s) *3-5 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's election with traverse of claims 1-16 in an amendment submitted on 1/15/04 is acknowledged. The traversal is on the ground(s) that whether the restriction is proper in showing the inventions are independent and there is serious burden on the examiner if the restriction is required. This is not found persuasive because the invention Group II, claim 17, limitations define an independent invention with different set of limitations in which attenuation takes places wherein light coming from the input optical fiber hits the first mirror and is reflected toward the second mirror and further reflected to penetrate said filter and into the output optical fiber is not found in Group II invention, claims 1 in which attenuation takes place through a means to move along the dimension over which the optical density gradient of the filter varies which require different search than that of Group II invention. The requirement is still deemed proper and is therefore made FINAL.

Allowable Subject Matter

1. Claim 3-5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the attenuating means further comprises a sliding patch, and the carrier further defines a slot, and the sliding patch is fixed in the

slot in combination with the rest of the limitations of the base claim. Claims 4-5 depend on claim 3 and therefore they are also allowable.

Claim 16 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the at least one mirror is a pair of mirrors positioned so that optical signals emitted from the input optical fiber reflect off one mirror, pass through the filter fixed on the carrier, then reflect off the second mirror and are received by the output optical fiber in combination with the rest of the limitations of the base claim

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2 and 6-15are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (Shen) (US 6130984).

Regarding claim 1, Shen teaches an electrical variable optical attenuator for attenuating optical signals input from an input optical fiber and output to an output optical fiber (shown in at least fig. 1; see abstract) comprising:

an attenuating means (shown in at least fig. 1 and 2, items 40, 14) comprising:

a moveable carrier 40 defining a guide hole (shown in fig. 6, item carrier 40 having an opening/hole for moving along a guiding rod; see col. 5, line 59-col. 6, line 4);

and a filter 14 fixed on the carrier 40, the filter 14 having a varying optical density gradient along at least one of its dimensions (see col. 4, lines 11-12);

wherein, an optical module 42 having a guide pole which is received in the guide hole of the carrier 40 (shown in fig. 6, item 40 moves through its threaded hole along a threaded guide pole);

and an electrical driving element (shown in fig. 5, items 20, 28a-b); wherein the electrical driving element drives the attenuating means (40, 14) to move along the dimension over which the optical density gradient of the filter 14 varies (see col. 4, lines 10-21).

However, Shen does not specifically teach wherein the above guide hole is a groove. Nevertheless, Shen states that the carrier moves along an actuation screw 48 having threads as shown in fig. 6 along wiper path 36 (see col. 5, line 53-48-67). Thus, it is well known to those of ordinary skill in the art that a carrier moving along a threaded guide pole having a guide hole is known as a guide groove, since such filter structure provides improved structure/methods for attenuation optical signals (see col. 1, lines 50-53).

Regarding claims 2 and 6-10, Shen further teaches wherein the carrier 40 further defines an insertion slot 52 into which the filter 14 is fixed; wherein the electrical driving element 20,28 drives the carrier 40 to move along the guide pole (see fig. 5-6 item 40); wherein the electrical driving element comprises a stepping motor 20, which drives the carrier 40 to move along the guide pole (shown in fig. 5-6, item 20 driving

carrier 40); wherein the stepping motor 20 has a screw rod 48, the carrier 40 further defines an inner screw, and the screw rod engages with the inner screw to drive the carrier along the guide pole (shown in fig. 6, item 40); wherein the optical module 42 further comprises at least one mirror 26; wherein the carrier defines an insertion slot 52 into which the filter 14 is fixed; a housing and a cover and the other components of the electrical variable optical attenuator are contained within the housing 22 (see col. 3, lines 48-54; wherein a housing comprises a cover).

Regarding claim 11, Shen teaches an electrical variable optical attenuator for attenuating optical signals input from an input optical fiber and output to an output optical fiber (shown in fig. 2, see abstract) comprising:

a guide pole (shown in fig. 6, item 40 moves through its threaded hole along a threaded guide pole); at least one mirror 26 for reflecting signals from the input optical fiber 16 to the output optical fiber 18 (see fig. 2, items 16, 18 and mirror 26);

a carrier having a guide hole for receiving the guide pole (shown in fig. 6, item carrier 40 having groove for receiving a guiding rod; see col. 5, line 59-col. 6, line 4); a filter 14 fixed on the carrier 40, the filter 14 having a varying optical density gradient along at least one of its dimension (see col. 4, lines 11-12);

and a stepping motor 20; wherein the stepping motor 20 drives the carrier 40 to move along the guide pole and the filter 14 to move along a direction parallel to the dimension over which the optical density gradient of the filter 14 varies (shown in fig. 2,

item 40 moves parallel to a dimension of the filter 14 which its density gradient varies; see fig. col. 4, lines 11-12), and

optical signals from the input optical fiber 16 to the output optical fiber 18 pass through the filter 14 (see fig. 2, items filters input/output fibers 16/18 and attenuation filter 14). Regarding Shen's teaching of guiding groove the arguments presented in rejection of claim 1, above, is analogous in rejection of claim 11.

Regarding claims 12-15 Shan further teaches, wherein the carrier further defines an inner screw (see 6, item carrier 40 defines an inner screw in which it moves along the actuation screw 48);, wherein the stepping motor 20 has a screw rod 48 and the screw rod 48 engages with the inner screw, and when the stepping motor 20 rotates the screw rod 48, the carrier 40 is driven along a direction parallel to an axial direction of the screw rod 48 (shown in figures 5-6 item carrier 40 moves parallel to axial direction of screw rod 48); wherein the carrier defines an insertion slot 52 into which the filter 14 is fixed; a housing and a cover, and the other components of the electrical variable optical attenuator are contained within the housing 22 (see col. 3, lines 48-54).

Citation of Relevant Prior Art

4. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Mao et al. 6144794 teaches at least claim 1

Garret et al. 5745634

Jaspan 6553175

Takahashi 6483982 teaches screwable hole defining a guide groove

Diemeer 6285504

Bergmann et al. 6163643

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

K. Cyrus Kianni
Patent Examiner
Group Art Unit 2877

March 26, 2004